



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,272	10/21/2003	Jang Sik Cheon	SUN0031US	4945
23413 7590 09/28/2009 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER BODDIE, WILLIAM				
ART UNIT		PAPER NUMBER		
2629				
NOTIFICATION DATE		DELIVERY MODE		
09/28/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary

Application No.

10/691,272

Applicant(s)

CHEON ET AL.

Examiner

WILLIAM L. BODDIE

Art Unit

2629

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-12, 17-23 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 18-22 is/are allowed.
- 6) ☒ Claim(s) 9-12, 17, 23 and 26-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

1. In an amendment dated, July 6th, 2009, the Applicant amended claims 9, 23 and added new claim 31. Currently claims 9-12, and 17-23 and 26-31 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 9-12, and 17-23 and 26-31 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 9-12, 17 and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

5. Claim 9 requires that all the plates be configured as one body and that the optical wave guide be a vacant space. Applicant's suggested that figures 3a, 3b and specific portions of the specification provide support for these limitations. The Examiner respectfully disagrees.

The Examiner was unable to find any discussion within the figures or specification which would support a single body design or a vacant space wave guide. Rather to the contrary, there are numerous discussions throughout the specification

Art Unit: 2629

which state the reflecting plate is "attached" to the bottom of the wave guide. This would seem to require that the plates are not configured as "one body" and that the wave guide is tangible. Furthermore, it is simply impossible to attach something to a vacant space, yet this is just what the Applicants appear to argue in stating that the reflecting plate is attached to the bottom of a wave guide (last sentence of page 10 which continues on page 11 of the specification) while the wave guide is a vacant space (as per the amended claim 9).

6. Support for claim 31 is also argued to be found in figures 3a, 3b and portions of the specification. However as discussed above the Examiner was unable to locate any discussion of a single body concentrating pad, likewise there is no discussion of an indivisible body. Again this seems to be contradicted by the specification which states that plates are "attached." Attaching plates would seem to clearly result in a body that is by definition not indivisible.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 23 and 26-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Davis et al. (US 2003/0034959).

With respect to claim 23, Davis discloses, an optical cursor control device (fig. 1) having a worktable (50 in fig. 3) and an optical pointing device (fig. 1) moved on the worktable by an operator, the optical pointing device comprising:

- a case (12 and 40 in figs. 1-3);

- an optical sensor disposed in the case (84 in fig. 3);

- a light guide (38c in fig. 3) on an outer sidewall of the case (sidewall of cross-hatched 40 in fig. 3; 40 is an outer sidewall as it is a wall forming the side of the mouse and is on the outside of the mouse) and including first (bottom of 38c in fig. 3) and second (top of 38c (near 44) in fig. 3) surfaces respectively on predetermined portions of the light guide,

- the first surface (bottom of 38c in fig. 3) being spaced away from the case (clear that the convex lens extends out away from the case 40 wall) and accepting light reflecting from a surface of the worktable (light rays in fig. 3) adjacent to the case (adjacent to 40 in fig. 3), and

- the second surface (top of 38c (near 44) in fig. 3) of the light guide being adjacent to the case (clear from fig. 3) and introducing the light penetrating the light guide onto an optical sensor in the case (ray diagram in fig. 3), the first and second surfaces including one optically functioning material (the convex nature of the top and bottom of the lens 38c in fig. 3 provide a converging effect for the light rays), and a remaining portion of the light guide (space in-between the top and bottom of lens 38c in fig. 3) including optically different functioning material from the first and second surfaces

(lens material in-between the surfaces merely function to pass the light rays in a set direction); and

a printed circuit board (36 in fig. 2) with electronic parts (16 in fig. 2) processing an output signal of the optical sensor (para. 23) to generate an output signal that corresponds to a position of the case (para. 23),

wherein the first and second surfaces are in direct contact with and are supported by the remaining portion of the light guide (bottom curve of lens is 1st surface; top curve of lens is 2nd surface both are supported by the remaining portion in-between), and

wherein the light sequentially traverses the first surface, the remaining portion and the second surface of the light guide (note the ray diagram in fig. 3).

With respect to claim 26, Davis discloses, the optical cursor control device according to claim 23 (see above), wherein the light guide further comprises light concentrators disposed at the first and second surfaces (note the convex lens located on the top and bottom of the lens 28c in fig. 3), and the light concentrators increase the intensities of the lights passing through the light concentrators (note the ray diagrams; additionally due to the convex shape of the lens the light will be concentrated).

With respect to claim 27, Davis discloses, the optical cursor control device according to claim 26 (see above), wherein the light concentrators are convex lenses (clear from the shape of the lenses in fig. 3).

With respect to claim 28, Davis discloses, the optical cursor control device according to claim 23 (see above) further comprising:

a switch module (72 in fig. 4) mounted on the printed circuit board (98 in fig. 4); and a button (14a in fig. 1) disposed on a top of the case to turn on or off the switch module (para. 15).

With respect to claim 29, Davis discloses, the optical cursor control device according to claim 23 (see above), wherein the first and second surfaces are parallel to each other (clear from fig. 3).

With respect to claim 30, Davis discloses, the optical cursor control device according to claim 23 (see above), wherein the light guide is disposed directly on and contacting the sidewall of the case (clear from fig. 3).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 9-10, 17 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perret, Jr. et al. (US 5,736,686) in view of Anderson (US 4,470,045) and further in view of Yamamoto (US 3,966,303).

With respect to claim 9, Perret, Jr. discloses, an optical cursor control device (graphic digitizing tablet) having a light concentrating pad (fig. 1) and an optical pointing device moved on the light concentrating pad by an operator (col. 1, lines 14-19), the light concentrating pad comprising:

an optical wave guide (14 in fig. 1);

a lower reflecting plate (15 in fig. 1; col. 3, line 63) attached to a bottom of the optical wave guide for upwardly reflecting light introduced into the optical wave guide; and

an upper transparent plate (49, 56 in fig. 1) attached to a top of the optical wave guide for passing the light reflected from the lower reflecting plate;

side reflecting plates (52 in fig. 1) attached to a portion of sides of the optical wave guide for reflecting the light in the optical wave guide (col. 5, lines 12-14 discloses that the edge is coated with aluminized mylar thus creating a light concentrating plate (note the rays around 48 in fig. 1)); and

a light concentrating plate (47 in fig. 1), wherein the light concentrating plate reflects external light (58, 40 in fig. 1) into the optical wave guide through another portion of the sides of the optical wave guide (col. 14, lines 24-30; clear from fig. 1),

wherein the lower reflecting plate, the upper transparent plate, the side reflecting plates and the light concentrating plate constitute the light concentrating pad (fig. 1).

Perret, Jr. does not expressly disclose that the light concentrating plate is attached to an edge of the lower reflecting plate and separated from the upper transparent plate.

Anderson discloses, a backlight lighting apparatus (fig. 4) comprising:

an upper transparent plate (40 in fig. 4) having an extension portion protruding from an edge of the lower reflecting plate (42 in fig. 4), an opening in the extension portion for exposing the optical waveguide (42 in fig. 4);

a light concentrating plate (54 in fig. 4) attached to an edge of a lower reflecting plate (48 in fig. 4), wherein the light concentrating plate is disposed on another portion of the sides of the optical waveguide (fig. 4) and under an opening of the upper transparent plate (40 in fig. 4), extending diagonally and upwardly from the lower reflecting plate to the upper transparent plate (fig. 4), contacting the lower reflecting plate and the upper transparent plate (fig. 4), contacting external light passing through the opening of the upper transparent plate, reflecting external light (18 in fig. 4) into an optical wave guide (52 in fig. 4),

wherein the optical waveguide (52 in fig. 4) is a space disposed between the lower reflecting plate (48 in fig. 4), the light concentrating plate (54 in fig. 4), the side reflecting plates (opposite 54 in fig. 4) and the upper transparent plate (40 in fig. 4), and

wherein a portion of the external light is reflected from the lower reflecting plate and passes through the upper transparent plate (fig. 4) at substantially a same time (light will inherently move at a speed of light which is deemed to satisfy the time limitations claimed.).

Anderson and Perret, Jr. are analogous art because they are both from the same field of endeavor namely backlighting systems.

At the time of the invention it would have been obvious to one of ordinary skill in the art to attach the light concentrating plate of Perret, Jr. to an edge of the lower reflecting plate and separate from the upper transparent plate as taught by Anderson.

The motivation for doing so would have been the well-known benefits of uniform brightness, preventing light leakage, and decreasing power consumption by a significant amount.

Neither Anderson nor Perret, Jr. expressly disclose wherein the plates are configured as one body to constitute the light concentrating pad or wherein the optical wave guide is a vacant space.

Yamamoto discloses, several sides which make up one body (48 in fig. 5) and wherein an optical wave guide is a vacant space (note the space in fig. 5; and discussion of the case and it's openings in col. 3, line 64 – col. 4, line 16).

Yamamoto, Anderson and Perret, Jr. are analogous art because they are both from the same field of endeavor namely backlighting systems.

At the time of the invention it would have been obvious to one of ordinary skill in the art to construct the case of Perret, Jr. and Anderson as a single body with a vacant space wave guide as taught by Yamamoto.

The motivation for doing so would have been the well-known benefits of decreased manufacturing costs and overall product weight.

With respect to claim 10, Anderson, Yamamoto and Perret, Jr. disclose, the optical cursor control device according to claim 9 (see above).

Perret, Jr. further discloses, wherein the upper transparent plate includes regular patterns drawn on a surface thereof (col. 4, lines 42-46).

With respect to claim 17, Anderson, Yamamoto and Perret, Jr. disclose, the optical cursor control device according to claim 9 (see above).

Perret, Jr. further discloses, a light source (16 in fig. 1) emitting a light toward the light concentrating plate, wherein the light concentrating plate reflects the light from the light source into the optical wave guide (clear from fig. 1).

With respect to claim 31, Anderson, Yamamoto and Perret, Jr. disclose, the optical cursor control device according to claim 9 (see above).

Neither Anderson nor Perret, Jr. disclose the light concentrating pad is a single unitary indivisible body.

Yamamoto a light concentrating body which is a single unitary indivisible body (fig. 5).

At the time of the invention it would have been obvious to one of ordinary skill in the art to construct the case of Perret, Jr. and Anderson as a single unitary indivisible body as taught by Yamamoto.

The motivation for doing so would have been the well-known benefits of decreased manufacturing costs and increased durability.

11. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perret, Jr. et al. (US 5,736,686) in view of Anderson (US 4,470,045) and further in view of Yamamoto (US 3,966,303) and Lyon (US 4,521,772).

With respect to claim 11, Anderson, Yamamoto and Perret, Jr. disclose, the optical cursor control device according to claim 9 (see above).

Neither Yamamoto nor Anderson nor Perret, Jr. expressly disclose further detail regarding the optical pointing device.

Lyon discloses, an optical pointing device comprises;

a case (108 in fig. 22) including a lower panel, the lower panel having an opening (clear from fig. 22);

an optical sensor (120 in fig. 22) mounted inside the case for sensing reflected light introduced into the case through the opening (fig. 22); and

a printed circuit board (110 and 112 in fig. 22) for processing a signal outputted from the optical sensor to generate an output signal that corresponds to a position of the case.

Lyon, Anderson, Yamamoto and Perret, Jr. are analogous art because they are all from the same field of endeavor namely, backlight control systems.

At the time of the invention it would have been obvious to one of ordinary skill in the art to construct the optical pointing device of Anderson, Yamamoto and Perret, Jr. as taught by Lyon.

The motivation for doing so would have been due to its high reliability over long periods of time (Lyon; col. 2, lines 20-24).

With respect to claim 12, Lyon, Anderson, Yamamoto and Perret, Jr. disclose, the optical cursor control device according to claim 11 (see above).

Lyon further discloses, wherein the optical pointing device further comprises:
a switch module disposed on the printed circuit board (114, 115 in fig. 22); and
a button disposed at the top surface of the case to turn on or off the switch module (116 in fig. 22).

Allowable Subject Matter

12. Claims 18-22 are allowed.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **WILLIAM L. BODDIE** whose telephone number is (571)272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/W. L. B./
Examiner, Art Unit 2629
9/24/2009